Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte
EUGENE L. SLAGOWSKI
and PAUL MCCARTEN

Appeal No. 1999-0984
Application No. 08/696,248

ON BRIEF

Before WALTZ, LIEBERMAN AND KRATZ, Administrative Patent Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the rejection of the examiner refusing to allow claims 1 through 6, which are all the claims pending in this application.

THE INVENTION

The invention is directed to a blanket material and a process for its preparation, for an extended nip press wherein short fibers are embedded in a two component polyurethane coating aligned in a cross-machine direction. Additional limitations are described in the following illustrative claims.

THE CLAIMS

Claims 1and 3 are illustrative of appellants' invention and are reproduced below.

1. A blanket for an extended nip press comprising:

a blanket material forming a loop of a selected cross-machine dimension and a selected circumferential dimension, and

a two component polyurethane resin impregnating the loop and forming a coating thereon,

the polyurethane resin having short fibers embedded therein, the fibers being substantially aligned with the cross-machine direction, the fibers being in sufficient quantities to provide significant structural reinforcement of the urethane in the cross-machine direction, wherein the coating has portions defining a plurality of parallel grooves extending about the loop in the machine direction, and wherein the short fiber reinforcement reinforces the urethane to prevent the grooves from collapsing under the applied loads of an extended nip press.

3. A method of forming a press blanket for an extended nip press comprising the steps of:

looping a bare fabric substrate around two support rollers, the rollers defining a top run region between the two support rollers;

dispensing a two-component polyurethane to a dispenser head which is closely spaced from the substrate surface;

moving the dispenser head across the substrate in the cross-machine direction, and dispensing the two-component polyurethane onto the substrate;

conducting to the dispenser head fibers from a fiber supply;

introducing the fibers into the polyurethane as the polyurethane leaves the dispenser head, such that the fibers are aligned as they leave the nozzle in the direction of the motion of the dispenser head;

moving the looped substrate in a machine-direction with respect to the dispenser head to apply the polyurethane-fiber mix to the entire substrate;

grinding the substrate to a consistent thickness; and

milling grooves into the polyurethane layer.

THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references.

Beucker	4,353,296	Oct. 12, 1982
Adams	4,552,620	Nov. 12, 1985
McCarten	4,944,820	July 31, 1990
WO '16820 (Published International Application)	95/16820	June 22, 1995

THE REJECTIONS

Claims 1 through 6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Adams in view of McCarten, and/or Beucker and/or WO '16820.

OPINION

We have carefully considered all of the arguments advanced by the appellants and the examiner and agree with the appellants that the rejection of the claims under § 103(a) is not well founded. Accordingly, we reverse this rejection.

Rejections under 35 U.S.C. § 103(a).

Adams is directed to a paper machine belt, spray coated on one or both sides with a urethane coating which impregnates and seals the blanket. See column 1, lines 7-14. We find that the urethane disclosed by Adams is a two component urethane resin. See column 1, lines 46-49. We find that the surface of the urethane base can be ground to a polished finish and grooved to discharge water. See column 1, lines 54-60. We find that the urethane resin is applied by a spray gun mounted over the traveling run of the blanket to

traverse the width of the blanket and discharge a two-component urethane resin. See column 2, lines 19-22. We find that the two component urethane resin mix is forced from a tank through a nozzle to eject a wide narrow jet of the urethane material. See column 5, lines 58-61. We further find that, "a screw rod **68** is driven at a speed to move the spray nozzle traversely across the top face of the run **61** to cover the entire width of the blanket base . . . ." See column 5, line 67 to column 6, line 1. We further find that the fabric weave is such that there is good flexibility in the longitudinal direction and more rigidity in the traverse direction. See column 3, lines 40-45. Indeed, it is an object of this invention that the belts are rigid enough so that they will not crush under the loads and yet are pliable enough to wrap around rolls. See column 1, lines 28-30. Accordingly, a requirement of these blankets is that the longitudinal direction is flexible and the traverse direction is rigid. Based upon the above findings, we conclude that Adam discloses each of the limitations of the claimed subject matter other than the presence of fibers, let alone, "fibers being substantially aligned with the cross machine direction," or that, "the fibers are aligned as they leave the nozzle in the direction of the dispenser head." See claims 1 and 5 respectively. Indeed, there is no disclosure or suggestion in Adams that fibers may be added to the blanket disclosed therein.

McCarten is likewise directed to a method for the formation of a blanket for a nip press. Similar to Adams, we find that an object of McCarten's invention lies in the

formation of a blanket wherein the anisotropic properties of the body permits flexure of the band in the machine direction, longitudinally, while inhibiting closure of the grooves by cross machine direction, traverse, of the band. See column 3, lines 1-8. We specifically find that, "the anisotropic properties of the body permit flexure of the body in machine direction during passage through the extended nip press while inhibiting closure of the grooves by cross-machine direction flexure of the body thereby maintaining the drainage capabilities of the grooves." See column 4, lines 1-6 and column 5, lines 50-65. We further find that McCarten discloses that the fibers are randomly oriented. See column 4, lines 45-51. There is no disclosure in McCarten to align the fibers in any manner other than randomly.

Beucker is directed to anisotropic rubber for nip rolls. We find that Beucker discloses that an, "[a]lternate method of providing the higher modulus elasticity in the transverse direction include the provision of acicula, fibers or cords as a component of the elastomeric or rubber layers with the acicula, fibers or cords oriented in the transverse direction . . . ." See column 3, lines 53-58. However, the physical properties of a rubber roll are different and distinct from that of the two component polyurethane compositions of the claimed subject matter. On the record before us, we find no suggestion or motivation why one of ordinary skill in the art would have substituted fiber containing transversely oriented two component polyurethane in place of fiber containing randomly oriented

polyurethane, based upon a teaching of a rubber elastomer. In particular the suggestion of Beucker to calendar and stretch the elastomer material in one direction in sheet form, column 1, lines 52-57, does not provide the requisite motivation to utilize the disclosed Beucker's stretching technique, for a two component urethane resin. Moreover, on the record before us, we find no suggestion of introducing the fibers into the polyurethane as the urethane leaves the dispenser head, as required by the method claims.

Finally, WO '16820 is directed to a method of making a shoe press belt by applying a polymer coating to the base cloth wherein the polymer coating is impregnated with an aramid, Kevlar, thixotrope. See Abstract, pages 1 and 2. However, WO '16820 specifically discloses that the fibers present are aligned in the direction of the applied shear, page 2, as opposed to a transverse direction. Accordingly, the disclosure of WO '16820 fails to overcome the deficiencies of the other references.

DECISION

The rejection of claims 1 through 6 under 35 U.S.C. §103(a) as being unpatentable over Adams in view of McCarten, and/or Beucker and/or WO'16820 is reversed.

The decision of the examiner is reversed.

REVERSED

THOMAS A. WALTZ Administrative Patent Judge	)
	) BOARD OF PATENT
PAUL LIEBERMAN Administrative Patent Judge	) APPEALS) AND) INTERFERENCES
PETER F. KRATZ Administrative Patent Judge	)

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JUDGE LIEBERMAN

APPEAL NO. 1999-0984

APPLICATION NO. 08/696,248

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DECISION: **REVERSED**

PREPARED: Nov 14, 2002

OB/HD

PALM

ACTS 2

DISK (FOIA)

REPORT

BOOK